

LEADSCREW MECHANICAL DRIVE WITH  
DIFFERENTIAL LEADSCREW FOLLOWER STRUCTURE

ABSTRACT OF THE DISCLOSURE

5 A leadscrew mechanical drive includes a leadscrew having a leadscrew  
axis and a leadscrew thread with a nonzero leadscrew thread pitch, and a  
leadscrew follower structure engaged to the leadscrew. The leadscrew follower  
structure includes a threaded insert having an insert thread with a nonzero insert  
thread pitch different from the leadscrew thread pitch, which is threadably  
engaged to the leadscrew. The leadscrew follower structure further includes a  
10 bearing in which the threaded insert is received and which permits the threaded  
insert to rotate about the insert axis, a bearing support in which the bearing is  
received, and a preload structure which biases the insert thread against the  
leadscrew thread.